(54) Title: COMPUTER ARCHITECTURE AND PROCESS FOR AUDIO CONFERENCING OVER LOCAL AND GLOBAL NETWORKS INCLUDING INTERNETS AND INTRANETS
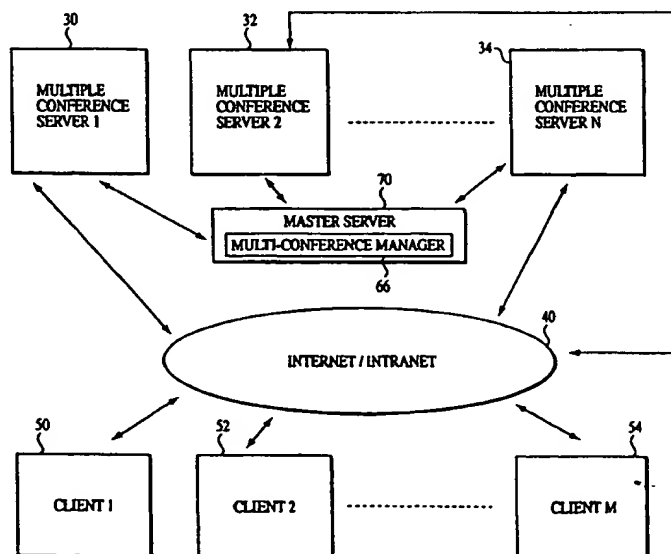
(57) Abstract

A system for providing at least one forum for communication to a plurality of clients (50) communicable with a computer network (40) is taught. The system includes a conference server (30) communicable with the computer network for hosting one or more forums, and for managing graphical representations of clients in the forums. The system also includes a multi-point control unit server (66) communicable with the computer network (40) for transmitting voice communication in real-time from a speaking client to remaining in the at least one forum.

AMENDED CLAIMS

[received by the International Bureau on 11 February 2000 (11.02.00);
original claims 1, 7, 46 and 47 amended; remaining claims unchanged (4 pages)]

1.   A system for providing at least one forum facilitating communication between a plurality of clients in a computer network environment; said system comprising:

a conference server communicatable and connectable with the computer network hosting at least one forum, and managing graphical representations of a first one of the plurality of clients in the at least one forum; and

a multi-point control unit server communicatable and connectable with the computer network transmitting voice communication in real-time from a second one of the plurality of clients to at least one of the first one of the plurality of clients and a third one of the plurality of clients in the at least one forum.

2.   The system according to claim 1, further comprising a data communications server communicatable with the computer network for negotiation of an initial connection between at least one of the plurality of clients, and said conference server and said control unit server.

7. The system according to claim 1, wherein said conference server maintains a real-time voice queue for each forum, and said multi-point control unit server manages the voice communication based on a client speech request order on said voice queue.

8. The system according to claim 1, wherein said conference server maintains a real-time text queue and transmits text communication in addition to transmitting the voice communication based on a client text transfer request order on said text queue from a text sending client to at least one text receiving client.

9. The system according to claim 1, wherein said conference server maintains a data file queue and transmits at least one data file based on a client text transfer request order on said data file queue from a data file sending client to at least one data file receiving client.

a queue server communicatable and connectable with the computer network and controlling at least one of a speech request queue determining at least in part an order of speaking by the plurality of clients, a text request queue determining at least in part an order of text chatting by the plurality of clients, and a file transfer queue determining at least in part an order of file transferring by the plurality of clients; and

a streaming server communicatable and connectable with the computer network and streaming aural communications to the plurality of clients based, at least in part, on the speaking order determined by said speech request queue.

47.   A system for providing at least one chat room for facilitating communication between a plurality of clients in a computer network, said system comprising:

a server communicatable and connectable with the computer network and managing avatars of the plurality of clients, said server controlling at least one of a speech request queue determining at least in part an order of speaking by the plurality of clients, a text request queue determining at least in part an order of text chatting by the plurality of clients, and a file transfer

queue determining at least in part an order of file transferring by the plurality of clients, said server streaming aural communications to the plurality of clients based, at least in part, on the speaking order determined by said speech request queue.

48. A method for providing at least one chat room for facilitating communication between a plurality of clients in a computer network, said method comprising:

managing avators of the plurality of clients;

controlling at least one of a speech request queue determining at least in part an order of speaking by the plurality of clients, a text request queue determining at least in part an order of text chatting by the plurality of clients, and a file transfer queue determining at least in part an order of file transferring by the plurality of clients; and

streaming aural communications to the plurality of clients based, at least in part, on the speaking order determined by the speech request queue for real-time communication.

Pepper Hamilton LLP
Attorneys at Law

Pursuant to the PCT Administrative Instructions § 205(b), the following is a summary of the claims in the application:

Claims 2-6, 8-45, and 48-49 are unchanged.

Claims 1, 7, 46, and 47 respectively, replace claims 1, 7, 46, and 47, as originally filed. No new matter is introduced in the enclosed claims.

Remarks regarding prior art rejections

Applicants provide the following comments regarding the relevance of the references cited by the Examiner:

U.S. Patent No. 5,880,731 to Liles et al. discloses a system and method for providing gestures to avatars in a graphical chat session. Liles et al. discloses predetermined views that can be displayed by a user in connection with text chat. Liles et al. further discloses a check box feature that saves chat history before a chat history pane is cleared or before the user exits the chat session. However, as it only provides a graphical text-based chat environment, Liles et al. is entirely unrelated to real-time audio conferencing over a computer network as in the instant invention. Further, Liles et al., for example, fails to even suggest a speech request queue and/or transmitting aural input based at least in part on a speech request as in the instant invention.

U.S. Patent No. 5,793,365 to Tang et al. discloses a system and method for providing communication between group members in audio, video, and text modes, as a function of the worker's preference and ability to support a given communication mode. Specifically, Tang et al.'s system includes a communication server that interfaces various communications applications, such as a video conference server, and audio conference server, an e-mail application, and a text chat application. Further, a gallery mechanism, in conjunction with a communication server, selects a communication mechanism, such as video-conferencing, e-mail, text chat, audio, or the like. The selection is preferably automatic and transparent to the user and is based on user preferences as well as hardware and software available to the user. Tang et al. also includes a gallery window, which in turn includes a worker icon for each worker. However,

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<u>Tang et al.</u> makes no mention of <u>real-time</u> audio conferencing over a computer network as in the instant invention. That is, <u>Tang et al.</u> includes no description of the audio conference server that would even suggest to one of ordinary skill in the art that the audio conference server was anything other than a standard audio conference server including a buffer for temporarily storing the aural signals transmitted from the terminals and a scheduler for controlling the distribution of the aural signals in the buffer in a first-in-first-out priority scheme. Further, <u>Tang et al.</u>, for example, fails to even suggest a speech request queue and/or transmitting aural input based at least in part on a speech request as in the instant invention.

Applicants respectfully submit that neither of the references cited by the Examiner, alone or in combination, show or suggest the combination of features or steps in claims 1-48. For example, independent claim 1 recites the combination of "a conference server communicatable and connectable with the computer network hosting at least one forum, and managing graphical representations of a first one of the plurality of clients in the at least one forum." Claim 1 also recites "a multi-point control unit server communicatable and connectable with the computer network transmitting voice communication in real-time from a second one of the plurality of clients to at least one of the first one of the plurality of clients and a third one of the plurality of clients in the at least one forum."

As described above, neither of the references cited by the Examiner show or suggest, for example, a multi-point control unit server transmitting voice communication in real-time between clients in a forum. Accordingly, Applicants respectfully submit that the combination of limitations in independent claim 1, when claim 1 is interpreted as a whole, patentably distinguishes over the applied references.

In addition, Applicants respectfully submit that independent claim 1 is patentably distinguishable over the art cited by the examiner because the instant invention provides benefits which are not provided for the these applied references. More specifically, the present invention provides the benefit of, for example, delay-free voice communication. Because the applied art does not show the combination of recitations defined in claim 1, Applicants respectfully submit that these cited references cannot provide these corresponding benefits. Thus, for these reasons

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as well, Applicants respectfully submit that independent claim 1 patentably distinguishes over the art cited by the Examiner.

In addition independent claims 32 and 46-48, and dependent claims 2-31, 33-45, and 49 include similar patentable features as independent claim 1, and are, therefore, also respectfully submitted to patentably distinguish over the references of record. However, each of these claims includes additional recitations which, when combined with the remaining recitations of each of these claims, are submitted to patentably distinguish over the applied art when interpreted as a whole for these reasons as well. For example, dependent claim 7 recites the additional features of "said conference server maintains a real-time voice queue for each forum." Claim 7 also recites "said multi-point control unit server manages the voice communication based on a client speech request order on said voice queue." Accordingly, when these recitations are considered in combination with the remaining recitations of claim 1, and when dependent claim 7 is interpreted as a whole, Applicants respectfully submit that dependent claim 7 also patentably distinguishes over the art of record.

By way of illustration, Applicants respectfully submit that dependent claim 7 is patentably distinguishable over the references of record because the present invention provides benefits which are not provided for by these prior art references. More specifically, the present invention provides the benefit of, for example, avoiding speakers simultaneously attempting to speak. Naturally, in person, speakers are able to see each other and anticipate from visual cues whether an individual wishes to speak. However, in the context of a on-line discussion, such visual cues are possible only via video transmission. Speech requests by speakers desiring to speak, as in the instant invention, obviate any need for visual cues, thereby rendering video transmission optional while simultaneously promoting normal conversation among the users of the instant invention.

Independent claim 32 recites a patentable combination of steps including "determining whether all users in an available virtual room have selected respective graphical representations to be displayed in the virtual room." Claim 32 also recites "determining whether any of the plurality of users has issued a speech request." Claim 32 further recites "duplicating and transmitting, in real-time, aural input from a user corresponding to a respective speech request to

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remaining users." When these recitations are considered in combination, and when claim 32 is interpreted as a whole, Applicants respectfully submit that independent claim 32 also patentably distinguishes over the applied art.

Independent claim 46 recites a patentable combination of features including "a graphical representation server communicatable and connectable with the computer network and managing avatars of the plurality of clients." Claim 46 also recites "a queue server communicatable and connectable with the computer network and controlling at least one of a speech request determining at least in part an order of speaking by the plurality of clients, a text request queue determining at least in part an order of text chatting by the plurality of clients, and a file transfer queue determining at least in part an order of file transferring by the plurality of clients." Claim 46 further recites "a streaming server communicatable and connectable with the computer network and streaming aural communications to the plurality of clients based, at least in part, on the speaking order determined by said speech request queue." When these recitations are considered in combination, and when claim 46 is interpreted as a whole, Applicants respectfully submit that independent claim 46 also patentably distinguishes over the applied art.

Independent claim 47 recites a patentable combination of features including "a server communicatable and connectable with the computer network and managing avatars of the plurality of clients." Claim 47 also recites "said server controlling at least one of a speech request queue determining at least in part an order of speaking by the plurality of clients, a text request queue determining at least in part and order of a text chatting by the plurality of clients, and a file transfer queue determining at least in part an order of file transferring by the plurality of clients." Claim 47 further recites "said server streaming aural communications to the plurality of clients based, at least in part, on the speaking order determined by said speech request queue." When these recitations are considered in combination, and when claim 47 is interpreted as a whole, Applicants respectfully submit that independent claim 47 also patentably distinguishes over the applied art.
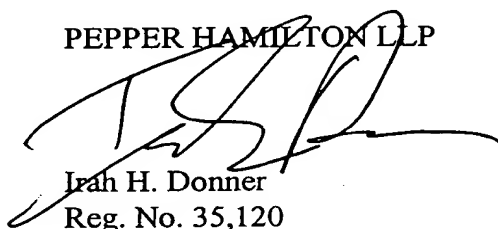
Independent claim 48 also recites a patentable combination of steps including "managing avatars of the plurality of clients." Claim 48 also recites "controlling at least one of a speech request queue determining at least in part an order of speaking by the plurality of clients, a text

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request queue determining at least in part an order of text chatting by the plurality of clients, and a file transfer queue determining at least in part an order of file transferring by the plurality of clients." Claim 48 further recites "streaming aural communications to the plurality of clients based, at least in part, on the speaking order determined by the speech request queue for real-time communications." When these recitations are considered in combination, and when claim 48 is interpreted as a whole, Applicants respectfully submit that independent claim 48 also patentably distinguishes over the applied art.

In view of the above, Applicant respectfully submits that the references cited by the Examiner do not show or suggest the combination of features recited in claims 1-49, as enclosed, when each of these claims are considered as a whole.

Respectfully submitted,
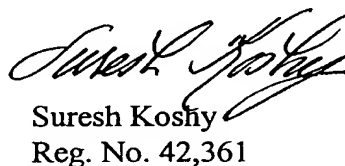
PEPPER HAMILTON LLP

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Respectfully submitted,

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Date: *11 FEBRUARY 2000*
DC: #140653 v1 (30J101!.WPD)

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1.   A system for providing at least one forum facilitating communication between a plurality of clients in a computer network environment; said system comprising:

a   conference   server   communicatable   and connectable with the computer network hosting at least one forum, and managing graphical representations of a first one of the plurality of clients in the at least one forum; and

a multi-point control unit server communicatable and connectable with the computer network transmitting voice communication in real-time from a second one of the plurality of clients to at least one of the first one of the plurality of clients and a third one of the plurality of clients in the at least one forum.

2.   The system according to claim 1, further comprising a data communications server communicatable with the computer network for negotiation of an initial connection between at least one of the plurality of clients, and said conference server and said control unit server.

7. The system according to claim 1, wherein said conference server maintains a real-time voice queue for each forum, and said multi-point control unit server manages the voice communication based on a client speech request order on said voice queue.

8. The system according to claim 1, wherein said conference server maintains a real-time text queue and transmits text communication in addition to transmitting the voice communication based on a client text transfer request order on said text queue from a text sending client to at least one text receiving client.

9. The system according to claim 1, wherein said conference server maintains a data file queue and transmits at least one data file based on a client text transfer request order on said data file queue from a data file sending client to at least one data file receiving client.

a queue server communicatable and connectable with the computer network and controlling at least one of a speech request queue determining at least in part an order of speaking by the plurality of clients, a text request queue determining at least in part an order of text chatting by the plurality of clients, and a file transfer queue determining at least in part an order of file transferring by the plurality of clients; and

a streaming server communicatable and connectable with the computer network and streaming aural communications to the plurality of clients based, at least in part, on the speaking order determined by said speech request queue.

47.   A system for providing at least one chat room for facilitating communication between a plurality of clients in a computer network, said system comprising:

a server communicatable and connectable with the computer network and managing avatars of the plurality of clients, said server controlling at least one of a speech request queue determining at least in part an order of speaking by the plurality of clients, a text request queue determining at least in part an order of text chatting by the plurality of clients, and a file transfer

queue determining at least in part an order of file transferring by the plurality of clients, said server streaming aural communications to the plurality of clients based, at least in part, on the speaking order determined by said speech request queue.

48. A method for providing at least one chat room for facilitating communication between a plurality of clients in a computer network, said method comprising:

managing avators of the plurality of clients;

controlling at least one of a speech request queue determining at least in part an order of speaking by the plurality of clients, a text request queue determining at least in part an order of text chatting by the plurality of clients, and a file transfer queue determining at least in part an order of file transferring by the plurality of clients; and

streaming aural communications to the plurality of clients based, at least in part, on the speaking order determined by the speech request queue for real-time communication.

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VIA FACSIMILE & COURIER

February 11, 2000

Attorney's File Reference: 113239-402/PCT

PATENT COOPERATION TREATY

International Application No: PCT/US99/18549

International Filing Date: 17 August 1999

For: COMPUTER ARCHITECTURE AND
        PROCESS FOR AUDIO CONFERENCING
        OVER LOCAL AND GLOBAL NETWORKS
        INCLUDING INTERNETS & INTRANETS

AMENDMENT UNDER PCT ARTICLE 19

To: The International Bureau of WIPO
       34, chemin des Colombettes
       1211 Geneva 20, Switzerland
       Facsimile No.: 41 22 740 14 35

Sir or Madame:

In accordance with PCT Article 19 and Rule 46, Applicant requests entry of new sheets 71, 73, 84 and 85 to replace sheets 71, 73, 84 and 85 of the claims as originally filed on 17 August 1999. New sheets 71, 73, 84 and 85 include amended claims 1, 7, 46, and 47 in response to the International Search Report issued 15 December 1999.

INTERNATIONAL SEARCH REPORT

A. CLASSIFICATION OF SUBJECT MATTER

IPC(6) :G06F 17/00
US CL :345/329; 709/204, 206, 207
According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 345/329; 709/204, 206, 207

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

STN, East
search terms: audio, video, chat, conference

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X --- Y	US 5,793,365 A (TANG et al) 11 August 1998, col. 3, line 32 - col. 4, line 28, col. 4, line 62 - col. 5, line 43, col. 8, line 60 - col. 13, line 12, col. 9, lines 22-62, col. 11, lines 5-65, col. 13, line 15 - col. 14, line 17.	1-9, 15-25, 35-48 -------- 10-14 26-34
Y,P	US 5,880,731 A (LILES et al) 09 March 1999, col. 1, line 13 - col. 4, line 16, col. 6, line 50 - col. 7, line 65, col. 7, lines 43-65, col. 9, lines 2-15, col. 13, line 15 - col. 14, line 12.	10-14, 26-34

☐ Further documents are listed in the continuation of Box C.   ☐ See patent family annex.

*	Special categories of cited documents:	"T"	later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"A"	document defining the general state of the art which is not considered to be of particular relevance		
"E"	earlier document published on or after the international filing date	"X"	document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"L"	document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"Y"	document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"O"	document referring to an oral disclosure, use, exhibition or other means		
"P"	document published prior to the international filing date but later than the priority date claimed	"&"	document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
18 NOVEMBER 1999	15 DEC 1999

| Name and mailing address of the ISA/US
Commissioner of Patents and Trademarks
Box PCT
Washington, D.C. 20231

Facsimile No. (703) 305-3230 | Authorized officer

PAUL KANG

Telephone No. (703) 305-9000 |

Form PCT/ISA/210 (second sheet)(July 1992)*

PATENT COOPERATION TREATY

(2155)

PCT

NOTIFICATION OF ELECTION

(PCT Rule 61.2)

From the INTERNATIONAL BUREAU

To:

Commissioner
US Department of Commerce
United States Patent and Trademark
Office, PCT
2011 South Clark Place Room
CP2/5C24
Arlington, VA 22202
ETATS-UNIS D'AMERIQUE

in its capacity as elected Office

Date of mailing (day/month/year) 27 February 2001 (27.02.01)	
International application No. PCT/US99/18549	Applicant's or agent's file reference 113239.402
International filing date (day/month/year) 17 August 1999 (17.08.99)	Priority date (day/month/year) 17 August 1998 (17.08.98)
Applicant TOVER, Steven et al	

1. The designated Office is hereby notified of its election made:

    [X] in the demand filed with the International Preliminary Examining Authority on:

    ### 13 March 2000 (13.03.00)

    [ ] in a notice effecting later election filed with the International Bureau on:

2. The election [X] was

    [ ] was not

    made before the expiration of 19 months from the priority date or, where Rule 32 applies, within the time limit under Rule 32.2(b).

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland	Authorized officer F. Zotomayor
Facsimile No.: (41-22) 740.14.35	Telephone No.: (41-22) 338.83.38

13

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

REC'D **03 SEP 2001**

WIPO   PCT

Applicant's or agent's file reference 113239.402	**FOR FURTHER ACTION**	See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/US99/18549	International filing date *(day/month/year)* 17 AUGUST 1999	Priority date *(day/month/year)* 17 AUGUST 1998	

International Patent Classification (IPC) or national classification and IPC
IPC(7): G06F 17/00 and US Cl.: 345/329; 709/204, 206, 207

Applicant
NET TALK, INC.

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.

2. This REPORT consists of a total of _8_ sheets.

☐ This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority. (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of _4_ sheets.

3. This report contains indications relating to the following items:

I   [X]   Basis of the report

II   ☐   Priority

III   ☐   Non-establishment of report with regard to novelty, inventive step or industrial applicability

IV   ☐   Lack of unity of invention

V   [X]   Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

VI   [X]   Certain documents cited .

VII   ☐   Certain defects in the international application

VIII   [X]   Certain observations on the international application

RECEIVED

OCT 1 7 2001

Technology Center 2600

Date of submission of the demand 13 MARCH 2000	Date of completion of this report 14 MAY 2001

Name and mailing address of the IPEA/US
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Facsimile No.   (703) 305-3230
	Authorized officer
	
	MARK RINEHA*James R. Matthews*
	
	Telephone No. (703) 305-9000

Form PCT/IPEA/409 (cover sheet) (July 1998)*

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

I. Basis of the report

1. With regard to the elements of the international application:*

- [ ] the international application as originally filed

- [X] the description:
  pages _____(See Attached)_____ , as originally filed
  pages _____ , filed with the demand
  pages _____ , filed with the letter of _____

- [X] the claims:
  pages _____(See Attached)_____ , as originally filed
  pages _____ , as amended (together with any statement) under Article 19
  pages _____ , filed with the demand
  pages _____ , filed with the letter of _____

- [X] the drawings:
  pages _____(See Attached)_____ , as originally filed
  pages _____ , filed with the demand
  pages _____ , filed with the letter of _____

- [X] the sequence listing part of the description: _____(See Attached)_____ , as originally filed
  pages _____ , filed with the demand
  pages _____ , filed with the letter of _____

2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.
These elements were available or furnished to this Authority in the following language _____ which is:

- [ ] the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).

- [ ] the language of publication of the international application (under Rule 48.3(b)).

- [ ] the language of the translation furnished for the purposes of international preliminary examination (under Rules 55.2 and/or 55.3).

3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international

- [ ] contained in the international application in printed form.

- [ ] filed together with the international application in computer readable form.

- [ ] furnished subsequently to this Authority in written form.

- [ ] furnished subsequently to this Authority in computer readable form.

- [ ] The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.

- [ ] The statement that the information recorded in computer readable form is identical to the writen sequence listing has been furnished.

4. [X] The amendments have resulted in the cancellation of:

- [X] the description, pages____NONE____

- [X] the claims, Nos. ____10-13____

- [X] the drawings, sheets/fig ____NONE____

5. [ ] This report has been drawn as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).**

* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17).

**Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.

Form PCT/IPEA/409 (Box I) (July 1998)*

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. statement

Novelty (N)	Claims	7-9, 15, 17, 25, 32-45, 46-49	YES
	Claims	1-6, 14, 16, 18-24, 26-31	NO
Inventive Step (IS)	Claims	NONE	YES
	Claims	1-49	NO
Industrial Applicability (IA)	Claims	1-49	YES
	Claims	NONE	NO

2. citations and explanations (Rule 70.7)

Claims 1-6, 14, 16, 18-24 and 26-31 lack novelty under PCT Article 33(2) as being anticipated by Tang et al., US Pat. No. 5,793,365.

Regarding claim 1, Tang teaches a system for providing at least one forum, virtual room or chat room facilitating communication between a plurality of clients in a computer network environment; said system comprising (col. 3, line 32 - col. 4, line 28):

a conference server communicable and connectable with the computer network hosting at least one forum, and managing graphical representations of a first one of the plurality of clients in the at least one forum (col. 4, line 61 - col. 5, line 11); and

a multi-point control unit server communicable and connectable with the computer network transmitting voice communication in real-time from a second one of the plurality of clients to at least one of the first one of the plurality of clients and a third one of the plurality of clients in the at least one forum (col. 12, line 40 - col. 13, line 12 and col. 14, lines 15-58).

Regarding claims 2-4, 6 and 21, Tang teaches a server which negotiates a connection, enables real-time data transmission and routing the client to a selected forum (col. 9, lines 22-55 and col. 14, lines 15-58).

Regarding claim 5, Tang teaches a system having both synchronous and asynchronous communications (col. 14, lines 15-58).

Regarding claim 14, Tang teaches a whisper functionality for providing private communication (col. 10, lines 9-35 and col. 14, lines 15-58).

Regarding claim 16, Tang teaches both internet and intranet (col. 11, lines 37-57).
(Continued on Supplemental Sheet.)

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/US99/18549

VI. Certain documents cited

1. Certain published documents (Rule 70.10)

Application No. Patent No.	Publication Date (day/month/year)	Filing Date (day/month/year)	Priority date (valid claim) (day/month/year)
US, A, 5,812,534	22 SEPTEMBER 1998	16 AUGUST 1996	08 JANUARY 1993
US, A, 5,916,302	29 JUNE 1999	06 DECEMBER 1996	

2. Non-written disclosures (Rule 70.9)

Kind of non-written disclosure	Date of non-written disclosure (day/month/year)	Date of written disclosure referring to non-written disclosure (day/month/year)

VIII.   Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

Claims 7 and 46 are objected to under PCT Rule 66.2(a)(v) as lacking clarity under PCT Article 6 because the claims are indefinite for the following reason(s):

Regarding claim 7, this claim begins on page 62 and seems to restart on page 63. The scope of the claim is unclear and indefinite.

Regarding claim 46, several elements, beginning on line 8 and ending on line 16, are claimed more than once and are not distinguished from one another. Therefore, the claim lacks clarity and is indefinite.

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

Supplemental Box
(To be used when the space in any of the preceding boxes is not sufficient)

I. BASIS OF REPORT:

This report has been drawn on the basis of the description,
page(s) 1-60, as originally filed.
page(s) NONE, filed with the demand.
and additional amendments:
NONE

This report has been drawn on the basis of the claims,
page(s) 62, 64-71, and 74, as originally filed.
page(s) NONE, as amended under Article 19.
page(s) 61, 63, 72 and 73, filed with the demand.
and additional amendments:
NONE

This report has been drawn on the basis of the drawings,
page(s) 1-13, as originally filed.
page(s) NONE, filed with the demand.
and additional amendments:
NONE

This report has been drawn on the basis of the sequence listing part of the description:
page(s) NONE, as originally filed.
pages(s) NONE, filed with the demand.
and additional amendments:
NONE

V. 2. REASONED STATEMENTS - CITATIONS AND EXPLANATIONS (Continued):

Regarding claim 18, Tang teaches the use of avatars (col. 4, line 61 - col. 7, line 61).

Regarding claim 19, Tang teaches asynchronous communication including one of email, message boards for voice or text messages, or whiteboards (col. 14, lines 15-58), and
the synchronous communication including one of real-time aural chat or real-time text chat sessions (col. 14, lines 15-58).

Regarding claim 20, Tang teaches message boards are user-specific, group-specific, and topic specific (col. 9, line 22 - col. 11, line 3).

Regarding claim 22-24, Tang teaches clients having interfaces having graphical representations identifying clients (col. 4, line 61 - col. 5, line 42).

Regarding claims 26 and 27, Tang teaches avatar selection menus to customize avatars (col. 4, line 61 - col. 7, line 61).

Regarding claim 28-31, Tang teaches on-line client window including a join forum functionality, speech request functionality, and forum selector (col. 4, line 61 - col. 7, line 61 and col. 9, lines 6-36).

Claims 7-9, 15, 17, 25, 32-45, and 46-49 lack an inventive step under PCT Article 33(3) as being obvious over Tang as applied above in view of Needham, US Pat. No. 5,784,568.

Regarding claims 7-9, 32-33, and 46-49, Tang teaches the invention substantially as claimed. Tang teaches a system and method for providing communication between a plurality of clients in a computer network, said system and method comprising (Tang, col. 3, line 32 - col. 4, line 28):
a server communicable and connectable with the computer network and managing avatars of the plurality of clients,

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determining whether all users in an available virtual room have selected respective graphical representations to be displayed in the virtual room (Tang, col. 4, line 61 - col. 5, line 11),

said server duplicating and streaming, in real time, data corresponding to aural, text and file communications to the plurality of clients (Tang, col. 14, lines 15-58).

However, Tang does not explicitly teach details of the system and method including queuing methods for transmitting the data; said server determining a speech request, and duplicating and streaming, in real time, aural communications to the plurality of clients based, at least in part, on the speaking order determined by said speech request queue.

The artisan therefore would have been lead to prior art teachings having detailed methods in managing real-time multi-party data transmission system. In the same field of endeavor, Needham teaches a real-time multi-party audio chat system having data request qeueing methods to determine order of data transmission (Needham, col. 3, lines 13-64).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have incorporated the queuing methods as taught by Needham into the conferencing system of Tang for the purpose of efficiently managing and implementing data transfers in a real-time multi-user data conference system.

Regarding claim 15, Tang-Needham teach the invention substantially as claimed. However, Tang-Needham does not explicitly teach one multiple conference server includes a plurality of multiple conference, and said system further comprises a master server controlling access. Tang-Needham does teach client/server network implementation of the system although details of the configuration is not disclosed. In order to configure the network topology of the system, the artisan would be led to the analogous art of computer networking, where he would find the details associated with network topology, including the tree network topology having multiple dependent servers.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have incorporated the tree network topology into the system of Tang-Needham in order to implement a reliable and efficient network configuration into the system.

Regarding claim 17, Tang-Needham teach the invention substantially as claimed. However, Tang-Needham does not specifically disclose the use of a voxilla server.

The use of a voxilla server to initiate communication using Open Source H.323 protocol was widely accepted and used as disclosed by the Applicant on page 33 of the specification.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have incorporated the use of voxilla servers into the conferencing system of Tang in order to use a widely accepted protocol for communication.

Regarding claim 25, Tang-Needham teach the invention substantially as claimed. However, Tang-Needham does not disclose volume control. Tang-Needham discloses aural conferencing using computers. It would have been obvious to one having ordinary skill in the art at the time of the invention was made to have incorporated volume controls, standard in most computer systems, into the system of Tang-Needham for the purpose of enhancing the system.

Regarding claim 34, Tang-Needham teach muting while duplicating (Needham, col. 3, lines 13-64).

Regarding claim 35, Tang-Needham teach displaying graphical representations (Tang, col. 4, line 61 - col. 5, line 42).

Regarding claims 36-39 and 43-45, Tang-Needham teach identifying new users and provides available virtual rooms, it's occupants and users in the lobby, providing the user access to those rooms, updating the display to show their status when the user joins or leaves (Tang, col. 4, line 61 - col. 7, line 61 and col. 9, line 6 - col. 11, line 3).

Regarding claims 40 and 41, Tang-Needham teaches asynchronous communication including one of email, message boards for voice or text messages, or whiteboards (Tang, col. 14, lines 15-58), and

the synchronous communication including one of real-time aural chat or real-time text chat sessions (Tang, col. 14, lines 15-58).

Regarding claim 42, Tang-Needham teach a whisper functionality for providing private communication (Tang, col. 10, lines 9-35 and col. 14, lines 15-58).

The Applicant's arguments filed 13 March 2000 have been considered but are moot in view of the grounds of the opinion set forth in this communication.

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-------------------- NEW CITATIONS --------------------
US 5,784,568 A (NEEDHAM) 21 JULY 1998,
col. 1, line 9 - col. 2, line 7;
col. 3, lines 13-64.

1.   A system for providing at least one forum facilitating communication between a plurality of clients in a computer network environment; said system comprising:

a   conference   server   communicatable   and connectable with the computer network hosting at least one forum, and managing graphical representations of a first one of the plurality of clients in the at least one forum; and

a multi-point control unit server communicatable and connectable with the computer network transmitting voice communication in real-time from a second one of the plurality of clients to at least one of the first one of the plurality of clients and a third one of the plurality of clients in the at least one forum.

2.   The system according to claim 1, further comprising a data communications server communicatable with the computer network for negotiation of an initial connection between at least one of the plurality of clients, and said conference server and said control unit server.

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7. The system according to claim 1, wherein said conference server maintains a real-time voice queue for each forum, and said multi-point control unit server manages the voice communication based on a client speech request order on said voice queue.

8. The system according to claim 1, wherein said conference server maintains a real-time text queue and transmits text communication in addition to transmitting the voice communication based on a client text transfer request order on said text queue from a text sending client to at least one text receiving client.

9. The system according to claim 1, wherein said conference server maintains a data file queue and transmits at least one data file based on a client text transfer request order on said data file queue from a data file sending client to at least one data file receiving client.

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a queue server communicatable and connectable with the computer network and controlling at least one of a speech request queue determining at least in part an order of speaking by the plurality of clients, a text request queue determining at least in part an order of text chatting by the plurality of clients, and a file transfer queue determining at least in part an order of file transferring by the plurality of clients; and

a streaming server communicatable and connectable with the computer network and streaming aural communications to the plurality of clients based, at least in part, on the speaking order determined by said speech request queue.

47.   A system for providing at least one chat room for facilitating communication between a plurality of clients in a computer network, said system comprising:

a server communicatable and connectable with the computer network and managing avatars of the plurality of clients, said server controlling at least one of a speech request queue determining at least in part an order of speaking by the plurality of clients, a text request queue determining at least in part an order of text chatting by the plurality of clients, and a file transfer

queue determining at least in part an order of file transferring by the plurality of clients, said server streaming aural communications to the plurality of clients based, at least in part, on the speaking order determined by said speech request queue.

48. A method for providing at least one chat room for facilitating communication between a plurality of clients in a computer network, said method comprising:

managing avators of the plurality of clients;

controlling at least one of a speech request queue determining at least in part an order of speaking by the plurality of clients, a text request queue determining at least in part an order of text chatting by the plurality of clients, and a file transfer queue determining at least in part an order of file transferring by the plurality of clients; and

streaming aural communications to the plurality of clients based, at least in part, on the speaking order determined by the speech request queue for real-time communication.